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ABSTRACT

As developer and custodian of the General Aptitude Test Battery (GATB), the U.S. Department of Labor (USDOL) is responsible for ensuring that its use meets established professional standards. Considering the logistical problems of overseeing the use of the GATB at more than 2,000 separate sites, the USDOL has confronted a monumental task in the face of declining economic resources. Use of video administration was recognized as having the potential to ease the burdens of test administration and improve test reliability because the GATB requires a substantial amount of instruction and is complex to time. Video administration tapes were developed for English and Spanish versions using the manual section on administration and scoring. Separate tapes have been prepared for different portions of the GATB. Videotaped administration is used to some degree in 30 states. Overall, responses have been very favorable, and the project appears successful. Users report that the tapes are particularly useful in administering the dexterity portions of the battery. Users' suggestions are being taken into account by the USDOL in improving the videos. (SLD)

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A PROBLEM THAT LED TO DEVELOPING VIDEO ADMINISTRATION OF THE GATB FOR TESTING AT MULTIPLE SITES

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A PROBLEM THAT LED TO DEVELOPING VIDEO ADMINISTRATION OF THE GATB FOR TESTING AT MULTIPLE SITES

As developer and custodian of the General Aptitude Test Battery (GATB), the U.S. Department of Labor (USDOL) is responsible to ensure that its use at over 2,000 separate sites meets established professional standards. Such standards are contained in Principles for the Validation and Use of Personnel Selection Procedures, Society for Industrial and Organizational Psychology, 1987, and Standards for Educational and Psychological Testing, American Educational Research Association, American Psychological Association, National Council Measurement in Education, 1985. Among other things, adherence to these standards ensures reliability of test scores used in making personnel selection or individual career decisions. No matter how solid the validity evidence of a test whether from rigorous development (construct and content) or subsequent use (criterion related), reliability and validity of scores can be greatly diminished at any instance of improper use.

Scope of the Problem and Resources Available

Considering the logistical problems of overseeing the use of the GATB at more than 2,000 separate sites, USDOL does not have sufficient mandated authority or funds to exercise close supervision over State Employment Security Agencies (SESAs) or affiliated entities authorized to use the GATB. The Wagner Peyser Act of 1933 established a nationwide system of public employment offices to be administered by (SESAs). Before this legislation was amended in 1981, the federal regulations that were codified to implement the legislation contained strong language to govern the use of tests in screening job applicants and providing vocational guidance to individuals. The regulations specifically stated that those who administered the GATB and other USDOL tests should be thoroughly trained to provide correct administration and interpretation of those tests. A section of the manual that governed Employment Service Operations in all SESA local offices provided very specific guidance on the use of tests as an extension of the regulations. Funds were allocated for training and technical assistance needed to promote adherence to such standards.

The amendments of 1981 gave considerable autonomy to SESAs on how they would use tests in day-to-day placement and counseling operations. The entire Employment Service Manual was rescinded. Funding declined substantially and language governing testing was shortened in the new regulations. Passage of the amendments coincided with a sharp decline in the number of professional USDOL staff designated to do test development research and to provide guidance on the effective use of tests developed and maintained by USDOL.

hough no longer required to take close direction from USDOL, most SESAs prefer and also expect to be able to call on USDOL professionals for technical guidance. After the amendments were passed USDOL officials still working on the development and maintenance of tests, sought solutions on how to operate the program with less resources and specific backing in the regulations. One thing that was done was to prepare self instruction materials for the use of persons being trained to be GATB test administrators. This reduced the amount of direct training needed to develop qualified test administrators, but could not make up for the lack of sustained coordination and oversight of SESA testing operations from a central USDOL authority.

Preserving Reliability of Test Scores

In discussing ways of improving the reliability of tests, Ghiselli (1964) refers to what he calls good "housekeeping" procedures. Among other things, he suggests avoiding situations that cause variation in scores that can be attributed to differences in environment across testing situations. Some of the factors that operate to cause such variation include inconsistencies in adequacy of lighting, ventilation, and freedom from distractions in the examination room; and degree of clarity and consistency in the instructions given to examinees before and during the administration of the test. The purpose of this presentation is to suggest a way of lessening the variation in the degree of clarity and consistency of instructions to examinees. It is especially intended for tests that are used on numerous occasions and at a large number of separate testing sites.

A possible Solution as the Problem Grew

As a result of substantial theoretical work that had been done to demonstrate the general validity of the GATB across a broad spectrum of work situations, SESAs chose in the early to mid 1980s to make considerably greater use of the GATB in doing applicant screening and referral . This amplified the problem of monitoring the GATB across multiple sites. Though not viewed as something that would completely standardize GATB administration across all testing sites, use of video administration was viewed as having the potential to do a significant part of the job. It partially implemented the suggestion of Ghiselli (1964) to improve reliability by simultaneous testing of all individuals.

Accordingly USDOL in its continuing effort to provide technical assistance to SESAs undertook a project to develop video tapes with which to administer the GATB.

The project was completed by the Western Test Development Field Center under the direction of USDOL program coordinators. The resulting tapes were expected to serve the following purposes:

1. Aid responsible staff in administering the GATB.

2. Standardize the delivery of verbal instructions used in administering the GATB.

3. Accurately time the different short tests that make up the total battery that is the GATB.

4. Reduce time used in delivering instructions.

5. Reduce potential for tension and confusion being imparted to examinees by occasionally flustered test administrators.

6. Allow test administrators to pay closer attention to examinee performance.

7. Combine video pictures of test form completion and dexterity exercises with verbal instructions.

At this point we need to examine the features of the GATB that make scores particularly vulnerable to irrelevant variation when the battery is not carefully administered. The GATB is composed of 12 separate parts some of which are further composed of subparts or separate exercises. The total working time for all parts of the Battery is approximately 48 minutes, but with instructions given and time allowed for practice exercises that precede each part or subpart, the time to administer the GATB averages close to 2 1/2 hours.

Seven of the 12 parts consist of multiple-choice paper-and-pencil tests. Each of these parts require specific instructions and an untimed period for practice exercises. The actual timed tests for these parts of the Battery allow working time that ranges from 5 to 7 minutes. The psychomotor or dexterity portion of the battery consists of 5 separate parts that each require verbal instructions and an untimed practice period. In total the actual tests contain 14 separately timed exercises for which examinees are allowed a total of 7 minutes 35 seconds. Actual working time allowed on the separately timed exercises ranges from 10 to 90 seconds.

The point of this description of GATB characteristics is that the administrator has a lot of things to remember and a lot to do if instructions are given clearly and concisely, and the 21 different testing intervals are timed accurately. A large body of evidence shows the GATB to be reliable and valid for the purposes of screening job

applicants and providing individual vocational guidance. However, as stated before, a let down in any given situation could seriously erode the validity of scores associated with that situation.

The GATB video administration tapes for English and Spanish were developed using Section I: Administration and Scoring of the Manual for the USES General Aptitude Test Battery as the basis for the script of the video. The tapes simulate in-person administration of the GATB by a thoroughly trained and capable administrator. The tapes run at a constant, real-time rate of speed for uninterrupted test administration, or can be paused as needed during instructions to allow questions from examinees. Instructions to "start" and "stop" from the administrator shown in the video tape cause a precise timing of the 21 separate test intervals because the tape is running in real time.

Staff with considerable experience administering and interpreting the GATB together with academic training and on-the-job experience in audio and video communication produced the tapes. This included script preparation, acting, camera work, and editing. Separate tapes have been prepared for different forms of the GATB, including the Spanish language versions called the BEAG. These tapes are available through a supply catalog to all authorized users.

Now we will show you portions of the tape.
(Show about 10 minutes of the Dexterity portions in both English and Spanish)

Experience with the Video

Judging from the fact that a large number of orders for the tapes have been filled and that orders come in daily, one might conclude that the project has been successful. Recent discussions with users nationwide confirmed that judgment and provided useful suggestions for improvements. Video-taped administration is used to some extent in 30 states across the nation. Some states use it in all local Employment Service offices. Other states limit its use to the larger local offices.

Users report that the video is particularly helpful in administering the dexterity portions of the battery. Some say that the examinees seem to grasp the instructions more quickly and ask fewer questions. In fact, as answers to very general questions users report specific positive information back regarding all of the purposes for which the project was undertaken.

One suggestion that came independently from several sources was that the actor giving instructions in the video should be as attractive and dynamic as possible so as to impart the most possible motivation to examinees. Some observers have gone so far as to suggest that the video administrator should wear more fashionable clothing. Current versions were deliberately designed to emphasize clarity and consistency and to consciously avoid anything that might cause a distraction. In fact, were the administrator overly attractive or distinctly unattractive, it might cause at least some examinees to be distracted from concentrating on the task at hand. Producers of the tapes relied on the assumption that a desire to do well on the different tests of the battery would overshadow any interest in critiquing the appearance of the person acting as the universal test administrator. Genuine enthusiasm coupled with pleasant appearance and the ability to deliver the instructions in a natural conversational style are believed to be the qualities most important in selecting a universal test administrator.

One observation that is borne out by suggestions from users across the nation, is that the audio and video quality of the tapes needs to be high to start with and that the tapes need be monitored very closely when they are used extensively. On observing the tape a few weeks ago, WTDFC staff noticed that while the audio portion was distinct enough to be serviceable, the instruction to examinees to "stop" at the end of most timed intervals was not as loud and clear as it should have been. Fortunately the live administrator had noticed this and by independently setting his stop watch was able to augment the audio instruction on the tape with his own clear command to "stop."

The project to produce video tapes for use in GATB administration seems to have been successful. All states that use video administration reported bee pleased with the results. The tapes should be considered as a useful tool for use by trained administrators. No empirical data is available to document the overall gain in score reliability standardized administration through video might bring. Reason alone suggests gains worth the effort.

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